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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/613,177	07/10/00	SAMPATH	K 00960-540

HM12/0329

PATENT ADMINISTRATOR
CREATIVE BIOMOLECULES INC
45 SOUTH STREET
HOPKINTON MA 01748

EXAMINER	
FRIEDMAN, J	
ART UNIT	**PAPER NUMBER**
1655	5

DATE MAILED: 03/29/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/613,177	Applicant(s) Sampath et al
	Examiner Jeffrey Fredman	Group Art Unit 1655

☒ Responsive to communication(s) filed on *Mar 2, 2001* .

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *three* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-42* is/are pending in the application.

Of the above, claim(s) *14, 16-29, and 37-42* is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-13, 15, and 30-36* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____ .

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____ .

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Election/Restriction

1. Applicant's election without traverse of Group I, claims 1-13, 15 and 30-36 in Paper No. 4 is acknowledged.

Double Patenting

2. Claims 1-13, 15 and 30-36 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 5,834,188. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patented claims are a species of the genus of the current claims, where the method of claim 2 of the U.S Patent is drawn to a species of screening using OP-1. The species anticipates the genus claim and renders the genus claim obvious.

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 12 and 35 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The invention is broadly drawn to methods for treatment of any disease using a compound identified by the method of claim 1. The specification provides no teaching or guidance that the compounds identified by the method of claim 1 will function to treat any disease. There are no working examples showing the treatment of any disease using compounds identified by the method of claim 1. The prior art notes the unpredictability of disease treatments. As Fernandez-Trigo (Am. J. Clin. Oncol. (1995) 18(5):454-60 (abstract only)) notes "A major problem with pharmacologic treatments for cancer is the unpredictable nature of the clinical response. Therefore, many patients are treated but few benefit from chemotherapy." While the skill in the art is high, it is extremely unpredictable whether any particular compound, and especially compounds as random as those identified by a screening method, will function to treat a disease. The prior art also supports the unpredictable nature of the art. It is unpredictable which formulations, compounds and delivery modes will function in an in vivo setting. This

unpredictability is evidenced, for example in gene therapies, by a report in Science (269:1050-1055) which states that "So far, there has been no unambiguous evidence that genetic treatment has produced therapeutic benefit (page 1050, column 1)". Lastly, a large amount of experimentation, amounting to a clinical trial for the use the identified compounds, would be required for this new use. Therefore, in view of the factors regarding absence of teaching in the specification, the absence of working examples, the absence of teaching in the prior art, the unpredictability of the art and the large amount of experimentation needed, with the skill level in the art being the only factor not clearly opposed to enablement, it is concluded that undue experimentation is required to make and use the full scope of the invention.

6. Claims 30-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 30-33 are indefinite as depending from non-elected claims.

Claims 11 and 34 are vague and indefinite as the terms "therapeutic grade" and "commercially significant" in the claims are relative terms which renders the claims indefinite. The terms are not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-3, 6, 9, 11, 13, 30-34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Foulkes et al (U.S. Patent 5,863,733) in view of Lin et al (J. Biol. Chem. (1993) 268(4):2793-2801).

Foulkes teaches a method for identifying a compound that induces a biological effect (column 73, lines 40-43), comprising a) providing a test cell comprising a DNA defining a transcription activating element operatively linked to a reporter gene encoding a detectable gene product, which, when present in a responsive cell contacted with a comopund serves to induce transcription of said reporter gene (column 73, lines 44-58), b) exposing said test cell to a

candidate compound (column 73, line 59 to column 74, line 5), c) detecting expression of said detectable gene product where the expression indicates the ability of the compound to induce the biologic effect (column 73, line 59 to column 74, line 5). Foulkes expressly teaches producing larger amounts of desirable compounds for use in therapy (column 31).

Foulkes does not teach the use of a morphogen responsive element and in particular, the use of the MEF-2 or AP-1 elements.

Lin teaches characterization and use of a promoter which is involved in actin morphogenisis (page 2793, column 2) and which comprises an MEF-2 site (see position -558 to -541, TCTATAAATAAA for the MEF-2 site and TGAGTAA for the AP-1 site.) (Page 2795, figure 1). Lin teaches detection of a morphogen mediated biological effect by detecting the binding of a protein, AP-1, which binds the regions cited in claim 26, in which the cells are transiently transfected for a period of hours, then harvested (see figure 2 and page 2794, column 1).

It would have been *prima facie* obvious to one having ordinary skill in the art at the time the invention was made to apply the method of Foulkes to the promoter of Lin in order to identify compounds which affect actin morphogenesis since Lin notes "The L-plastin gene is unusual in that it is normally expressed only in hemopoietic cells, yet is activated in other cell types of solid tissues accompanying tumorigenesis (page 2800, column 1)". An ordinary practitioner would have been motivated to find compounds which inhibit L-plast activation in non-normal cells in the interest of inhibiting tumorigenesis.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fickett et al (Mol. Cell Biol. (1996) 16(1):437-441) teaches a consensus MEF-2 site on page 439, column 1, which encompasses the MEF-2 site in the sequence of Lin.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Fredman, Ph.D. whose telephone number is (703) 308-6568.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, W. Gary Jones, can be reached on (703) 308-1152.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission via the P.T.O. Fax Center located in Crystal Mall 1. The CM1 Fax Center numbers for Technology Center 1600 are either (703) 305-3014 or (703) 308-4242. Please note that the faxing of such papers must conform with the Notice to Comply published in the Official Gazette, 1096 OG 30 (November 15, 1989).

Jeffrey Fredman
Primary Patent Examiner
Art Unit 1655

March 28, 2001